GENUINE ECONOMY IN HOME BUILDING

RESIDENCE JOHN W. GARY, GLENCOE, ILL. Frederick Wainright Perkins, Architect. Hy-tex Velour, full range. Flemish Bond, with 3/8-in. cream-white mortar-joint, cut flush.

GENUINE ECONOMY IN HOME BUILDING

SECOND EDITION

Price
Fifty Cents

HYDRAULIC-PRESS BRICK COMPANY
SAINT LOUIS

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Bungalow,
St. Louis, Mo.
Hy-tex
Venetian Red with
Hy-namel
Trimmings.

*"Perfect taste
and
perfect harmony
can be
as truly expressed
in a Cottage
as in a Mansion."*

Russian Embassy,
Washington, D. C.
N. C. Wyeth,
Architect. Hy-tex
Washington Gray,
Roman size.

FOREWORD

AMERICA is today the only nation which still persists to any extent in building its homes of wood. The use of brick is here in its infancy. We have scarcely begun to realize the possibilities of brick as an economical home-building material.

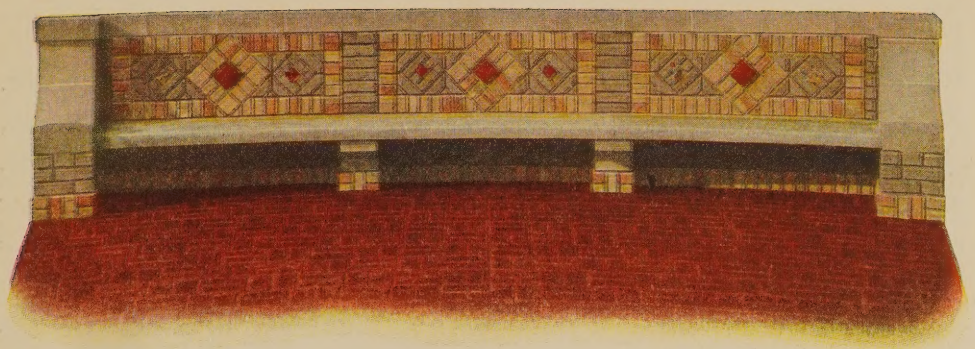
In the hope of increasing appreciation for brick and spreading the realization that brick is the most economical as well as durable and beautiful home-building material, we have prepared this booklet. We are certain that millions of American home-lovers will gladly learn that the building material which is responsible for the architectural beauty of the finest buildings in the country is so easily available for them in building their homes.

Our purpose, thus expressed in the first edition of this booklet, has met with a more cordial response than we could have well hoped. "Genuine Economy in Home Building" has received such a favorable reception and been so generously praised that, in spite of an original issue last year of 25,000, a second edition is now rendered necessary.

The main contention for the pre-eminent value of brick as a building material stands unchanged and unchallenged. A few additions have been deemed advisable to enhance, if possible, the general appearance of the booklet; and a few corrections of inadvertent minor errors have been made that escaped notice in completing the first edition.

We bespeak for this second edition the same kindly and generous appreciation which the first received, and are sure that the reader will find much information and suggestion that will prove both interesting and instructive, as well as helpful in formulating any possible plans for building in brick.

RESIDENCE R. L. COBB, MINNEAPOLIS, MINN. Carl A. Gage, Architect. Hy-tex Colonial. An interesting example of the apparent height added by use of the Dutch Bond, which fills the wall with diagonals.



Bench on F. H. Wheeler Estate, Indianapolis, Ind. Hy-tex Golden Mottled Matt and Medium Gray Matt.

By permission of Price and McLanahan, Architects, Philadelphia.

GENUINE BUILDING ECONOMY

TO express the purpose and to fulfill the use for which a building is erected are the primary duties of Architecture. This is just as true of a home as it is of the Capitol Building of a great nation.

When you build a home you are doing more than merely erecting a house. You want your home to be the embodiment of your personality—to express permanence, culture, beauty, refinement, charm and hospitality. You want it to be a place of comfort and security for your family. No house that fails in any of these is in the truest sense a home. What part of a house, then, can possibly be more important, either in making it express personality or in assuring comfort and security, than its exterior? That there are so many houses and so few homes is due in the largest part to failure to take into account this simple question.

The truth is that there are few more important factors in making a home than the outside walls. It is only during the last few years that we have even begun to appreciate this fact in America; we have grown

accustomed to thinking of the walls as simply the enclosure of the interior. But they are just as much an expression of yourself, of your individuality, of your tastes—at least, they *should* be and *can* be—as the interior. Furthermore, they bear witness to the hundreds of passers-by, to your neighbors, to your whole community; while the inside speaks to only the few who are privileged to enter.

In making for comfort and security, the enclosing walls are all-important. It must be the very simplicity of this fact that causes it so often to be overlooked.

So in planning a home don't put all the stress on the floor plans. Consider everything that goes to make it a place in which you can feel a just pride. You aren't going to build very often in your lifetime. That's the very best reason you can find for planning carefully every part and feature of your home. It is also the very best reason for so building that your home will be an ever-increasing source of joy and satisfaction, with as few regrets as possible.

We have taken it for granted that the people who ask for this booklet are interested in building economically. There are persons who can have everything they want without figuring the cost, but to most of us the cost is a vital element, and we want to be sure that what we get is commensurate with the price we pay. It is to you who are interested in genuine economy in home building that we have devoted this booklet.

To be sure, we shall touch other elements that enter into the building of a home, but the other elements are in the main summed up by *beauty* and *durability*, and in these, brick has always been conceded to be the leading building-material.

Brick's greatest disadvantage is that it is an old friend. In some form or other we have all known it from our very earliest recollections. If we could imagine a building-material that possessed all its advantages

EUCLID AVENUE JEWISH TEMPLE, CLEVELAND, OHIO. Lehman & Schmitt. Architects. Hy-tex Bokhara, Norman size, Flemish Bond. One of the most beautiful and interesting examples of brick-work in the country. No reproduction can give any idea of its varied colors.

suddenly being discovered and introduced as a novelty, the demand for it would be so great that the thousands of kilns in the country could not begin to supply the demand. To some of us brick means the old style of common brick, while to others of us it stands for a building-material that only the richest can afford to enjoy. We overlook the fact that in both respects brick has changed since the days of our childhood. The point about the brick that most people miss—and it is really the important point—is that brick is the most economical building-material.

In the first place, "first-cost" is only one of the many elements that enter into genuine economy. Your own protection demands that you keep this in mind. Economy is judicious expenditure, not cheapness, in building as in everything else. You wouldn't buy a suit of clothes or a tailor-made dress simply because you could get it for ten dollars. You would look into the quality of the material, into its beauty, and into all the other features that go to make a good garment.

It is just so with the walls of a house. That material is the most economical which gives you all that the walls of a home should be, and gives it to you at the lowest cost in the long run. And, on the basis of hard reckoning in dollars and cents, Hy-tex Brick is that material. In the course of a very few years, walls of Hy-tex will represent to you a lower cost than any other material; and in addition, you will have all the security, all the comfort, all the permanence, and all the beauty that Hy-tex alone can give.

Consider, also, the maintenance charges which keep rolling up after an ordinary house is built. In the economy of building, maintenance charges are a much more important factor than first-cost. First-cost is a matter of a day, while maintenance is the concern of a lifetime. If you wanted an automobile, you wouldn't buy one for any price if you could get another machine for five per cent or ten per cent more which would save

you one hundred per cent a month in repairs. Yet you can "turn in" an unsatisfactory automobile; how much more important is this principle in a permanent purchase like a home?

With Hy-tex for the walls of your home, you begin to save money the day your home is completed. Your fire-insurance premium is lower; it requires less coal to heat your home; you don't have to pay the ever-recurring repair and paint bills; you aren't bothered with frozen plumbing in the winter. The elimination of all such expenses goes a long way in making Hy-tex the most economical material to use in building the walls of your home.

RESIDENCE IN MINNEAPOLIS, MINN., which proves that the availability of Hy-tex for homes does not depend upon pretentiousness or initial expense. Hy-tex Coon Creek; Flemish Bond.

RESIDENCE H. R. IRELAND, Brazil, Ind., Johnson & Miller, Architects. Hy-tex Dark Gray Matt; Flemish Bond; Chocolate mortar joint, raked out one-half inch.

FIRST-COST ONLY ONE ELEMENT

Let us take up in detail these various matters that enter into genuine economy in home-building. The difference in first-cost between frame and brick construction up to a few years ago was enough to justify the use of lumber in the average house. In almost every locality lumber was close at hand. The cost of cutting and milling was low. The result was a building-material so much lower in price than the others that perhaps it was, in those days, the most expedient. One could afford to assume the increased cost of maintenance and repairs, and of all the other items that go to determine true economy, because of the big saving in first-cost. Then we grew so accustomed to this state of affairs that to look upon frame construction as the most economical became a habit. That this habit still persists in any measure is a reflection on our judgment as a nation.

For conditions have changed. Millions of acres that were once the source of this cheap lumber are farms now. Through wasteful cutting and a lack of scientific forestry, our timber supply has been sadly depleted. To cite one instance only: According to testimony before the Ways and Means Committee of the Sixtieth Congress, 1908-1909, "white pine stumpage has made an average increase of 100 per cent for every three years during the past thirty years." It is not this shrinking alone, however, that is the cause for the increase in the cost of lumber. Perhaps the largest item in the cost of this material today is the transportation charge. The available timber is now, in many cases, thousands of miles from the centers of population.

So great have been the changes wrought by a comparatively few years that today the difference in first-cost between frame and brick construction is so slight as to be negligible. This is not a mere generality; let us get right down to cases.

COMPARATIVE COST HOUSE, St. Louis, Mo. Hy-tex No. 508 Ironspot. This is the residence on which we secured from different cities contract bids for various forms of facing construction, as described herewith.

FIRST-COST ONLY ONE ELEMENT

On the opposite page is a photograph of a residence recently completed in St. Louis, with 13-inch solid brick walls, faced all around with Hy-tex No. 508. This house is very substantially built, with tile roof, copper gutters, cut stone sills and trim, and all the details are such as a purse-free home-builder desires. To build the house complete, as you see it, cost $9875; we have on file the itemized price-sheets and contract bids.

To obtain definite, unprejudiced, up-to-date figures on comparative costs, we had the blue-print plans of the house re-figured by one of the most careful contractors in St. Louis, as if the outside walls were to be of frame instead of brick. Our frame specifications assumed that all other items except outside walls remained the same. We were not content with the *estimated* price; we secured a *contract bid* for which the contractor could be held to take the job. The contract price of brickwork, both material and labor, on this house as actually charged was $1465. The contractor's bid for frame construction on the same house was $1137.71, a difference of $327.29. To this, in all fairness, should be added the cost of the cut stone used in the brick house for window sills, around the porch, and for trim, $102, increasing the total difference in favor of frame to $429.29.

Then we sent photographs and blue-print plans of the same home to our Office Managers in Philadelphia, Cleveland, Indianapolis, Omaha, and Minneapolis. They in turn secured from prominent residence contractors in their cities actual bids, not estimates, for solid brick and for frame outer walls, just as we had done in St. Louis. These cities are fair representatives of building costs, both in material and labor, for the nation, and the results obtained are of timely value to every prospective home-builder.

Next to the St. Louis figures, Indianapolis showed the lowest difference in favor of frame, with $610.19. Omaha followed close, with the brick

RESIDENCE J. M. KEITH, Missoula, Mont. Link & Haire, Architects. Hy-tex No. 550 Medium, Roman size.

walls more expensive by $671.27. Philadelphia and Cleveland were next in order with $755.02 and $771.70, respectively. In Minneapolis, whose early fortunes were built on timber, the difference in favor of frame was $855. For these six representative cities, the average difference in first-cost between Hy-tex and frame construction was $682.08.

Thus we see that even where frame is cheapest the saving effected by its use is only 8.6 per cent of the cost of Hy-tex. Where the difference is least, Hy-tex cost only 4.4 per cent more. The average difference in the contract bids of the six cities was 6.9 per cent.

While we also called for contract bids from the several cities on other forms of construction, we will not take space to quote them here. These other forms, such as stucco or cement siding, brick veneer, either on frame or on hollow tile, and 9-inch brick walls, all lie between the two

extremes which we have itemized. Reinforced concrete and natural stone are both considerably more costly than the most expensive form of brick construction.

These figures are proof that the actual present-day excess in first-cost of Hy-tex Brick is slight. About how much weight should be attached to first-cost you probably have already decided, and the following pages will enlighten you still more. But before we pass on, there is one important element to be considered immediately.

No matter if you're building with no intention of selling, salability should always be considered. It is an item of over-shadowing importance. The selling value of a house is the only adequate measure of its worth. And it is a plain fact, which you can verify in your own community, that a brick house is always more advantageously sold than any other. The reasons are obvious. A brick house is always "in style." It has held

RESIDENCE F. J. ROEHLE, CLEVELAND, OHIO. Hy-tex Bokhara, medium range. Flemish Bond with slate-colored mortar-joint.

RESIDENCE OF L. W. and H. H. RIDDLE,
CHICAGO, ILL. Riddle & Riddle, Architects.
Hy-tex Velour. Flemish Bond, flush mortar-joint.

its place in the affections of home-lovers through all the changing moods and fads in building. It is the one building that is "just as good" years after it is built. With the single exception of quarried stone, every other form of construction but brick is at its best when the last workman has gathered up his tools and departed. From that minute, even before you have moved in, deterioration makes the house less and less salable, with the result that in a quick sale you are forced to stand considerable loss.

In a large mid-Western city are two houses side by side, built at the same time some years ago by two brothers. Both are of simple and rather commonplace architectural design. The more substantial and dignified appearance of the brick house seems due to the brick alone; the main difference in the floor-plans and designs is that the frame house is larger. The first-cost of the brick house was slightly greater. But—the frame house recently was sold, and it was no forced sale either, at a loss of 40 per cent of its original cost; while for the brick house, standing on the next adjoining lot, recent bidders have offered twice its original cost.

Confirmation even more convincing can be obtained from the cashier of your bank. A great many persons are obliged to borrow when they build their homes, and so think they are needlessly burdening themselves if they build in any but the cheapest form of construction. Nothing could be more fallacious. It is when examined as bankable security that the genuine economy of building with Hy-tex becomes most readily apparent. The principal and interest on the small additional amount needed to build of brick are soon made up in the savings which it brings, and you ask no favor when you borrow for that purpose.

The more it is necessary for you to economize in building, the less you can afford to build of anything but Hy-tex.

TWO STREETS IN PARKVIEW, St. Louis, Mo. Every residence depicted on these two beautiful streets is faced with Hy-tex Brick. Consequently these two pictures represent the lowest possible cost of up-keep and repairs.

UP-KEEP AND REPAIRS

How often have you heard a friend say—or maybe you've said it dozens of times yourself—"It's cheaper to rent than to own. There are always some new and unlooked-for expenses about a house. I'll let Jones stand those expenses." No truer words could be spoken—about certain kinds of houses. And no words less true about a house built of Hy-tex Brick.

Those expenses that make a frame or stucco house undesirable and expensive to own do not come with a Hy-tex house. You obviate them at the start. You needn't entertain the carpenter or painter or plumber every little while unless you particularly enjoy the company of these expensive friends.

And don't forget the essential fact that a home is practically a *permanent* purchase. For this reason the true principle of economy not only holds good in home-building, but is multiplied several times over. With a home, *Maintenance is the concern of a lifetime*—every home-builder should read that short sentence twice and engrave it on his memory.

No house so nearly keeps itself as a Hy-tex house. A frame house is at its prime for only one day—the day it is completed. From that time on it begins to warp, rot, swell or shrink. It requires constant repairs and painting, and the more the painting is neglected the more the other charges mount up. And this item of painting is no insignificant expense. To protect the wood properly the house should be painted every year or two, and even in a small house this expense is a considerable one.

After an exhaustive study the Committee on Fire Prevention of the Boston Chamber of Commerce estimates that the annual cost of repairs and painting on a frame house costing $10,000 is $250, and $150 annually on a frame house costing $6,500. This is approximately 2½ per cent per year of the original cost of the building.

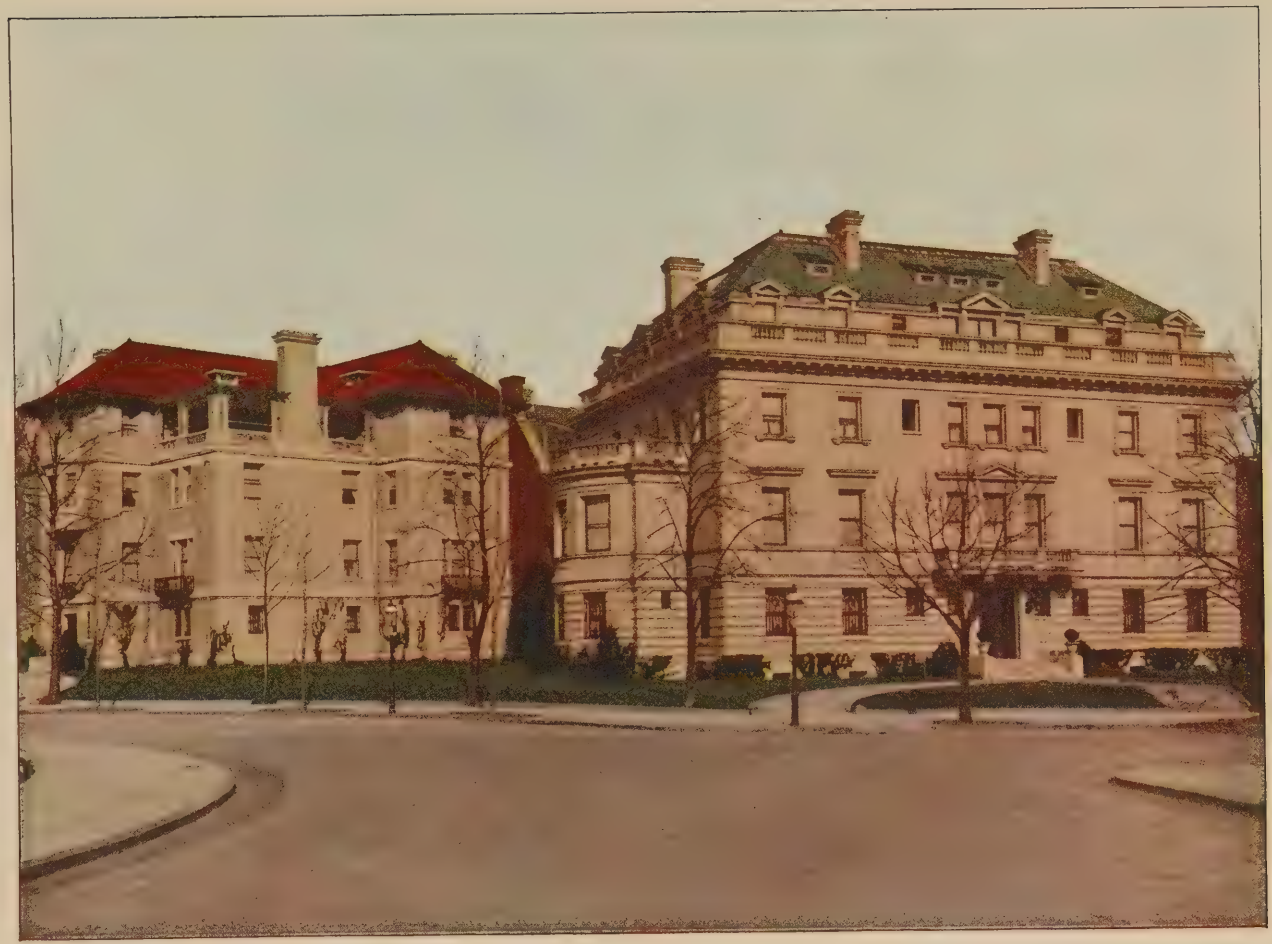
In discussing these figures the report says:

"Figures such as these can be only suggestive, and it would be almost impossible to establish anything like exact ratios of the cost of maintenance, length of available life, or amount of depreciation, as these do not depend wholly on the method of construction, but are modified by exposure, character of occupancy and by the frequency of changes in tenants. But the figures are at least a justification of the conviction held by many experts that, taking everything into account, a building of second-class* construction will wear better, last longer and usually cost less in the long run than a similar building of third-class construction, with combustible exterior. The continued construction of wooden buildings would therefore seem to be a mistake from the standpoint of cost, of use as measured by length of life, and above all, of the fire hazard."

Cement siding and stucco have not been in use long enough in this country to give us reliable statistics on their cost of up-keep. It is well to bear in mind, however, that this form of construction was imported into America from European countries where climatic conditions vary greatly from the conditions in the United States. In those countries, where cement and stucco have been successful, these materials are *always* used on a solid wall of brick or stone for a background. The use of stucco on wooden or metal lath, or on hollow blocks, is distinctly an untried fad. It has no basis either in building-logic or in building experience.

Indeed, the origin of stucco as a building-material for American homes is the clearest index at once of its virtues and defects. For the buildings of the great World's Fair in Chicago, in 1893, a material was required which would present only the *appearance* of permanence, and at minimum

**Second-class construction, as used by the Boston Committee, means a building with outer walls of non-combustible material, while third-class is a frame building.*



TWO RESIDENCES ON SHERIDAN CIRCLE, the leading residential section of Washington, D. C. George Oakley Totten, Architect. Hy-tex Washington Gray, Roman size.

RESIDENCE CORNER DREXEL ROAD AND LANCASTER AVE., OVERBROOK, PENN. Duhring, Okie & Ziegler, Architects. Hy-tex Winslow Ironspot No. 69 and No. 89. Contrast the lively interest of the pattern-work and of the brick itself with the monotonous wall of the stucco house beyond.

expense. Real durability was the last thing desired. The life of the buildings was to be only one mild Chicago summer, and it was essential that they should be wrecked quickly and cheaply. To meet these conditions a material called "staff" was devised. From this use in the World's Fair buildings gradually came the fad of stucco. As an architectural make-shift, it served its purpose well. But in building a home you want more than the appearance of permanence.

On other counts than first-cost, cement siding and stucco have scarcely a leg to stand on. As used in this country, either stucco is wrong or Physics is wrong. The co-efficient of contraction and expansion of stucco and of its background varies greatly under changes in temperature, no matter whether that background be wood, metal lath, or hollow blocks. That simple incontrovertible fact means that stucco *must* crack and peel off in the course of a very few years. This adds an extra expense of patching and re-surfacing considerably greater even than in frame. Except in restricted localities like Southern California there is no escape from this defect. Even there, the frost that nips the oranges plays havoc with the stucco.

Those who wish for their homes a glaring mausoleum white or a dull monotonous drab may find in stucco, or cement siding, a desirable exterior color. To maintain the very doubtful virtue of these color-effects, however, requires a continuous expenditure for painting and waterproofing. Nothing is more unsightly than the usual discoloration, under the eaves, sills and other projections, of stucco houses.

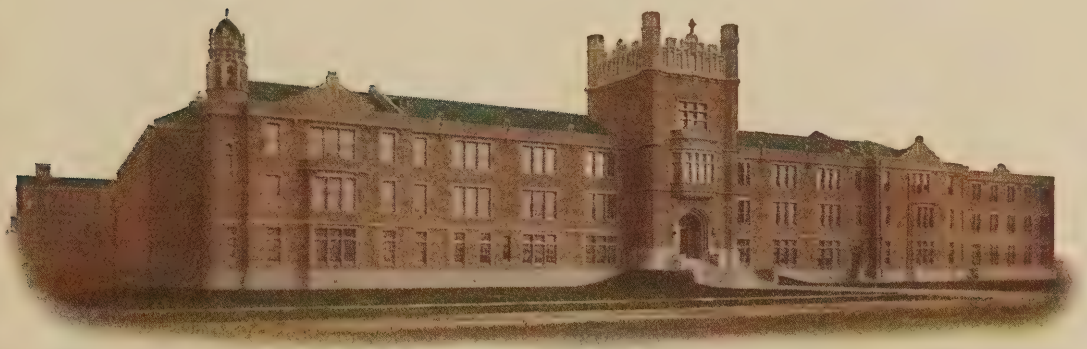
That solid concrete construction overcomes the frailty of stucco there can be no doubt, but being still in the experimental stage it has had no opportunity to show its endurance through any extended period of time, though laboratory tests indicate a high record of durability.

PALACE HOTEL, San Francisco, California. Trowbridge & Livingstone, Architects. Mahoney Bros., Builders. Hy-tex No. 601. Several of the most notable buildings on the Coast, from Los Angeles to Vancouver, B. C., are faced with Hy-tex.

In first-cost, however, reinforced concrete is the highest of all materials. Satisfaction prescribes steel reinforcements for walls of solid concrete, but with such walls a house cannot be built for less than twice the cost of brick.

In choosing Hy-tex for the walls of your home, you overcome all these disadvantages in other construction, as proved by centuries of brick-building. The cost for repairs is so slight that you will never notice it. There is no decay, no cracking, no shrinking or swelling or twisting. The item of painting is eliminated.

Search where you will, apply any test you choose, you will find that in the matter of repairs and up-keep, no building-material is so economical as Hy-tex; and the economy in this one respect alone makes Hy-tex the genuinely economical material for the exterior of your home.



URSULINE CONVENT, New Orleans, La. Andry & Bendernagel, Architects. Hy-tex Gray Matt. Not only from the Gulf to the Lakes does Hy-tex serve but beyond, for our Canadian business is large and rapidly increasing.

GEORGIAN TERRACE, Atlanta, Georgia. W. L. Stoddart, Architect. Hy-tex Washington Gray. In apartment buildings and hotels the lowest fuel-cost possible is an essential of the investment. Now that you come to think of it, aren't most apartment houses built of brick?

FUEL-COST

But there are other marked economies and advantages in the use of Hy-tex. One of the bogey-men of every household is the coal bill. It is one of those things that is never smaller than we expect; it has a habit of always being bigger than we counted on. Any wall that can cut down the size of this regular expense has a claim to your affections, let alone your consideration.

Here again Hy-tex can save you money. In the first place a house with walls of Hy-tex requires a smaller heating plant than one with less substantial walls. We hear a great deal these days of "dead air space" and its ability to cut down the expense of heating a house and to keep it cooler in summer. Now the dead air space which secures heat-insulation must be a hermetically sealed cell, that is, one admitting no ingress or egress of air, as in the case of the thermos bottle. Puncture the vacuum surrounding your thermos bottle and it will lose its value for keeping hot fluids from radiating the inside heat, or cold fluids from being warmed by the outside heat. It is precisely the same with all hollow wall construction as with the punctured thermos bottle, it never provides air-tight cells or compartments. Whatever other merit such construction may have, it certainly cannot lay just claims to providing heat-insulation.

For an easily-understood application of this principle, turn to your own ice-box or to refrigerator cars. In building them there can be no delusion concerning "dead air space" accepted as fact. Over twenty years ago the practice of building air-chambers or hollow walls into cold storages of all kinds was abandoned, and two decades ago was the mere dawn of Refrigerating Engineering as we know it today. Prior to that time the meager insulating value of such walls came not from the hollow space, but from the lumber and paper used in its construction.

In short the conserving of the benefits in this kind of wall for your home depends upon the facing material plus careful building. After

A GROUP OF PROMINENT WASHINGTON RESIDENCES

EX-SENATOR JOS. W. BAILEY. Geo. Oakley Totten, Architect. Hy-tex Washington Gray, Roman size.

EX-SEC'Y FRANKLIN MCVEAGH. N. C. Wyeth, Architect. George A. Fuller Co., Builders. Hy-tex Washington Gray Roman size.

THE LATE THOMAS F. WALSH. Ralph Townsend, Architect. Hy-tex Washington Gray, Roman size.

many years of investigation, experts assert that a well-built brick house will average a fuel-saving of twenty to twenty-five per cent. Balancing up theory and practice, the fact will be found that no wall is warmer in winter or cooler in summer than a Hy-tex wall.

Furthermore, by the same token that they reduce the fuel bill, Hy-tex walls eliminate the annoyance and expense of frozen plumbing. This is only one of other considerations whose great importance we frequently overlook—Health and Comfort. No combination of excellences can atone for an unhealthful house. Doctors' bills are tangible; we all appreciate their cost. But do we take into account the decreased earning-power caused by colds and grippe in the winter and sleepless nights from heat in the summer? Do we realize, until too late, that the connection is vital between a healthful and truly comfortable home and vitality, good spirits, happiness and efficiency?

Heat and cold are merely opposite poles of the same phenomenon. A Hy-tex house could not be the warmest in winter were it not equally the coolest in summer. Don't overlook the cash value of Health and Comfort built into your home.

Dupont Avenue, Minneapolis, Minn., from Douglas to Mt. Curve. Every home in this view is faced with Hy-tex Brick.

RESIDENCE G. H. ROGERS Minneapolis, Minn. Hy-tex No. 503-A. After completion, but before it was occupied, this house was completely gutted by fire, originating in oily waste carelessly left by the interior painters. The only damage to the exterior walls, built of Hy-tex, was the loss of 85 bricks, chopped out by the firemen. We promptly furnished these, the interior was rebuilt, and the house restored as you see it here.

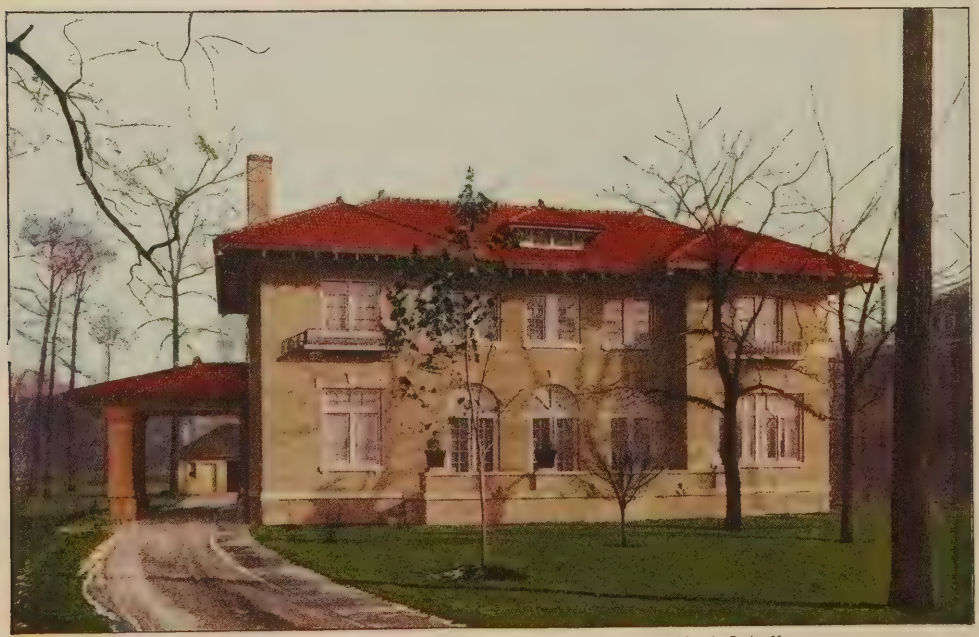
THE FIRE RISK

There is no greater waste in America today than the needless daily loss by fire. The figures are staggering. For a number of years now, the average annual loss by fire in the United States has been over $250,000,000. Roughly, that represents an annual tax of $2.50 for every man, woman and child in the United States. And it falls on everyone, not merely the unfortunate ones whose property is destroyed. To quote once more from the report of the Committee on Fire Prevention of the Boston Chamber of Commerce:

"This loss falls upon every member of the community in the form of increased taxes, increased insurance rates, increased cost of building-materials, increased rent, and, sooner or later, may fall upon anyone in the more obvious form of direct personal loss due to a fire in his own home or place of business."

In 1908, the United States Geological Survey made an exhaustive study of fire losses in the United States as compared with European countries. The report following their investigations gives the most authoritative statistics available on the subject. They found that in 1907 the total loss by fire for the United States amounted to $215,084,709, or $2.51 per capita, while in six European countries the loss per capita was 32 cents, or slightly over one-eighth the loss in the United States. For the same period it cost us seven and one-half times as much as Europe—$2.53 per capita—to maintain our fire departments.

"It is reasonable to assume," says the Survey Report, "that when building construction in the United States shall have reached a condition similar to that in Europe our annual cost on this item alone (the cost of maintaining fire departments) may be reduced from more than $25,000,000 to $3,000,000, or less than one-seventh the present cost."



Above—RESIDENCE A. M. GLOSSBRENNER, INDIANAPOLIS, IND. Alfred Grindle, Architect. Hy-tex Bokhara, full red range, half-inch black mortar-joint, raked.
Below—RESIDENCE F. F. POWELL, INDIANAPOLIS, IND. Foltz & Parker, Architects. Hy-tex No. 608, Running Bond with black mortar.

In this connection bear in mind, please, that BRICK is the prevailing building-material in Europe. Against the fire losses of America versus Europe, place these figures: America uses annually five hundred feet of lumber per capita, Europe sixty feet. Truly, the use of brick *is* in its infancy here in America.

If any further evidence be required to convince you that brick is the best fire-resistive material, here it is. W. D. Matthews, chief surveyor of the Chicago Board of Underwriters, in his "Manual of Inspection" for 1908, says:

"Ordinary well-burned brick of good quality is the most satisfactory fire-resistive material now used in building construction."

And this from a recent report of the American Institute of Architects:

"After exhaustive research and thorough investigation, including the severest fire and water tests that could be applied in building construction, we do not hesitate to say that brickwork far surpasses any other form of construction work known to science."

Just one more exhibit, and by far the most interesting to you, for it shows the result of a United States Government test of Hy-tex Brick.

This test was one of a series conducted under the direction of Mr. Richard B. Humphreys of the United States Geological Survey, in Chicago in 1907. The bricks for this test were not selected. They were taken from a pile of brick delivered for use on a new building without our knowledge that any tests were to be made.

Here in brief is what the Government experts did to our brick. First the panel of brick was frozen. Then it was put into a furnace and heated for two hours to a heat of 1580° Fahrenheit, and finally it was cooled

Panel of granite blocks after passing through same tests of firing and quenching as were applied to Hy-tex panel below.

Panel of Hy-tex Brick after firing at 1580° Fahrenheit, followed immediately by quenching with water at 36°. The most exhaustive fire tests, made by the Government, showed Hy-tex Brick the *most* fire-resistive of all building-materials tested.

Reproduced from Bulletin 370, U. S. Geological Survey, by courtesy of Bureau of Standards, Washington, D. C.

by quenching for five minutes with water at a temperature of 36°. The accompanying plate shows the panel after the test.

In commenting on this test, the report (United States Geological Survey Bulletin No. 370) says, in part:

"The Hydraulic-Press Brick (Hy-tex) withstood the test very well. No damage was apparent after the firing and before the water was applied, and although a number of bricks cracked, seventy per cent of them were found to be sound after quenching.

"Only seven were seen to be cracked or pitted before the application of the water, and these defects were in the corners and represented a very small area of the brick. After the quenching, about eighteen per cent of the brick were cracked through. None of them except those above mentioned were spalled. After the test the wall was found to be apparently sound, though smoke-stained. IT COULD HAVE BEEN LEFT STANDING, AND THE INJURED BRICK REPLACED BY NEW ONES WITHOUT IMPAIRING ITS STRENGTH."

Hy-tex Brick came through its test with the best record of the thirty panels of various building-materials used in this series of tests. This test gives us pretty good ground on which to base our claim that Hy-tex is the *most* fire-resistive material for the walls of your home—the one material that gives you and your family the utmost of security.

A Hy-tex house with a roof of non-combustible material is your best protection against the destruction of your home by fire from the outside. Fires in the interior of a house originate in defective flues and defective electric wiring more often than from almost all other causes combined. Here again Hy-tex is your greatest protection. There is no chance for a fire inside the walls themselves and no chance for a fire originating in the

HOME OF KANSAS CITY STAR, W. R. Nelson, Owner. Jarvis Hunt, Architect. Hy-tex Diamond Matt, laid Flemish Bond with special length stretchers. One-inch white mortar-joints, cut flush. Notice the diverse pleasing effects of the pattern-work.

floors to spread with anything approaching the rapidity with which it travels in a house whose walls are loaded with upright wooden joists, sheathing planks, paper and shingles.

Fire-insurance companies take cognizance of these facts in their premium rates, but so many varying factors go to determine fire-insurance rates that it is impossible to state any figures on the extra savings in premiums effected by brick construction. Among such factors are the efficiency of fire protection, water pressure, exposure, character of tenancy and many others, all local and individual. Averaging them all up, however, it is safe to say that a Hy-tex house reduces fire-insurance premiums over twenty-five per cent.

Leaving out of account the actual dollars-and-cents saving, no material in the matter of fire protection can have the same claim to your consideration as Hy-tex. Indeed, the assurance of security brought by Hy-tex is just as real a measure of genuine economy as any financial saving. If to be a safe shelter is the first requisite of a home, then Hy-tex is the one material for its walls.

ENTRANCE TO THE GRANT FARM, St. Louis.
Owner, August A. Busch. Widman and Walsh, Architects. Hy-tex Red and Dark Gray Matt.

RESIDENCE HARRY LESSER, St. Louis. Mauran, Russell & Crowell, Architects. Hy-tex No. 510, Light Bronze of varied shades. English Cross and Flemish Bonds.

BEAUTY, INDIVIDUALITY AND PERMANENCE

No doubt you have often noticed on returning from a walk or a drive that certain houses linger in your memory. These houses seem in perfect accord with Nature, as much a part of the landscape as the grass and trees and shrubbery and sky. They do not force themselves on your attention by high lights and strong contrasts, but win you by their expression of peace and harmony. Their individuality invites you to a closer acquaintanceship, with the promise of revealing new and unexpected graces.

Now think again and you'll recall that almost invariably these houses are of brick. And as often as not they are small houses. Convincing beauty is not a matter of money. Perfect taste and perfect harmony can be as truly expressed in a cottage as in a mansion.

A brick wall, built up of many units, each carefully laid in place by human hands, expresses character and individuality impossible to obtain in any other building-material. Compared with a glaring painted wood surface, a monotonous stucco or a gaudy cement, the brick wall is as a rich Oriental rug to a single-colored carpet rug, as an oil painting to a chromo. The one reveals its whole self at a glance, while the other grows more beautiful each day, ever revealing new moods and charms.

Momentary fads and fancies come and go, in building as in all else, but through them all brick has come triumphant. In the older countries, which long ago passed through the "Wooden Age," brick has long been the predominant home-building material. American travelers in going through England are struck by the picturesqueness of the homes, quite unmindful of the fact that English homes owe their beauty in the main to skillful handling of brick.

RESIDENCE EDWARD MORRIS, Chicago, Ill. Howard Shaw, Architect. Hy-tex Red Velour, laid Flemish Bond. Showing the adaptability of Hy-tex for this notable example of Tudor Gothic.

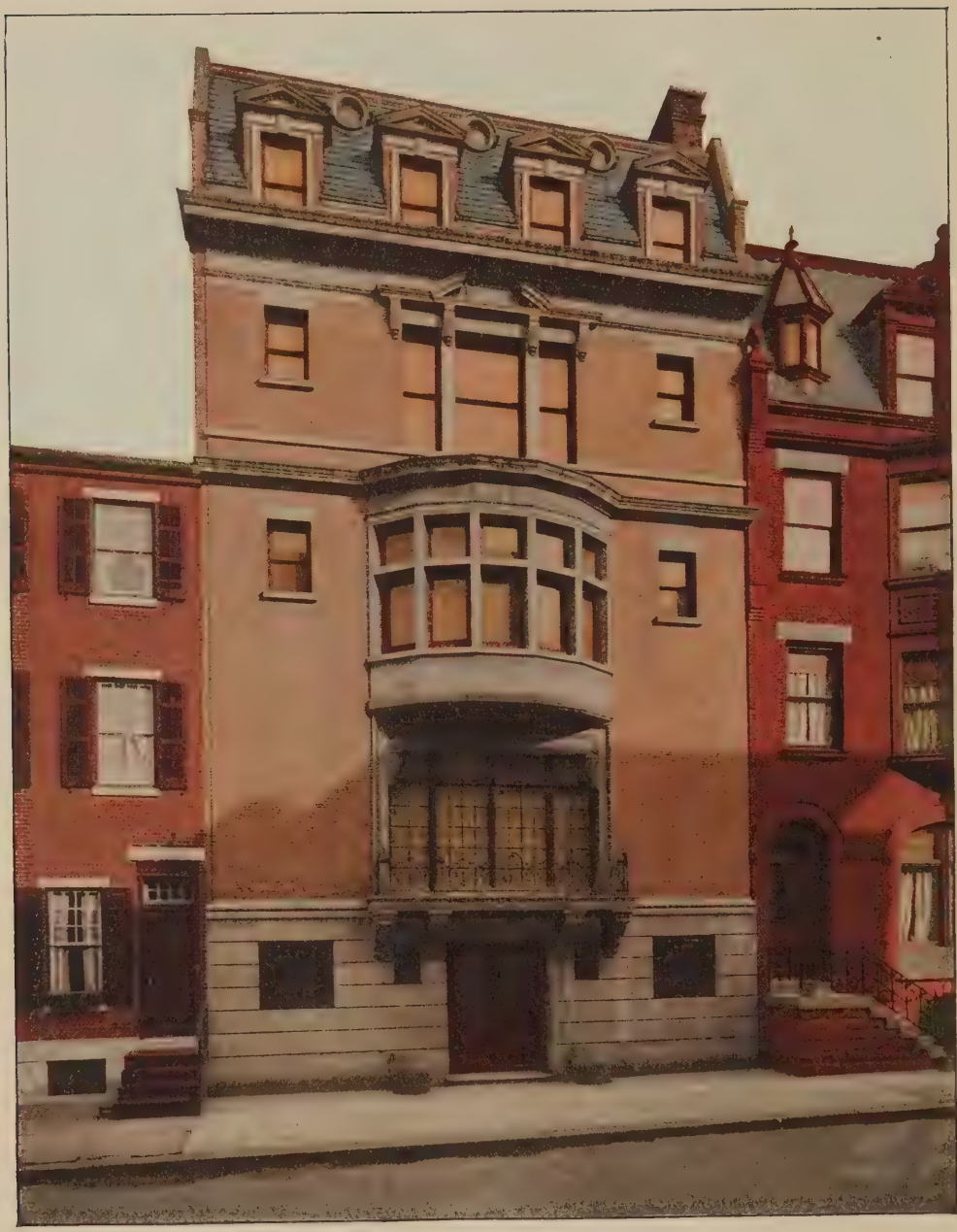
BEAUTY, INDIVIDUALITY, PERMANENCE

And yet no European country has such a wealth of brick material as America. Hy-tex in its myriad shades and colors, sizes, shapes and textures, laid in various bonds and joints and patterns with the proper complementary mortars, offers the widest range for the expression of individuality in building that Architecture has ever known.

It is an axiom of Architecture that color is more important than line. In that single sentence is summed up the irrefutable argument for Hy-tex in your home. With Hy-tex in hand there are practically no limitations on the architect. The field of the wall is to him what the canvas is to the painter. By the proper selection of shades and mortars and bonds the new wall can express all the weathered age that we love to associate with home; or again by the use of other combinations the wall may fairly radiate life. With Hy-tex the architect is not dependent on strong contrasts for his effects. He has at his finger tips many harmonious shades. Many individual Hy-tex bricks have in themselves a wide range of colors.

These effects are produced without the aid of artificial coloring of any kind. Nothing but expertness in blending and burning selected clays and shales enters into the marvelous and myriad shadings of Hy-tex. There are over 300 different kinds of Hy-tex Brick; they comprise every color-effect and texture known to the modern artistry of brick-making.

No intending purchaser of brick should fail to inform himself concerning textures. Most manufacturers are equipped to make only two or three textures, and each one would have you believe that his one favorite is the very best, no matter what your particular building or the effect at which you are aiming. Of late years a considerable vogue has been created for a texture variously designated as rough, wire-cut, or matt. This texture was brought into the market in 1902 and is one of the largest items of our manufacture. Nevertheless we do not assume that wire-cut



RESIDENCE J. B. LIPPINCOTT,
PHILADELPHIA, PENN. Louis C. Hickman,
Architect. Hy-tex Washington Gray.

bricks are the most desirable for all purposes. We manufacture all textures. Being bound by no necessity we advocate only the texture, as well as color, best suited for the particular individual purpose which you have in hand. At the service of you and your architect, we are Brick Specialists without a prejudice.

You and we might be able to select and furnish the one brick ideally adapted for your purpose in every requirement of color, texture, durability and shape. There would then remain the matter of Bonds and Mortar-Joints. Without skillful handling of these two factors the ideal qualities of our selection would be lost.

Has anybody ever told you anything about the Flemish Bond, the Flemish Double Stretcher Bond, the Garden Wall Bond, the English Bond (which is depicted on the cover of this booklet), and the others, or has it been your impression that bricks are always laid up the same old way? Do you know that by the use of a Dutch Cross Bond several feet can be added to the apparent height of your house? Do you know that two walls laid up with absolutely the same brick will appear to be so much lighter or darker in color that you wouldn't believe the same brick had been used at all—according to the use of black or white mortar? Do you realize also that still another effect can be obtained from the use of self-colored mortar? Have you ever been shown the difference in tones obtained by having the mortar raked out deep or left flush?

An adequate discussion of these interesting questions, however, would carry us far beyond our present limits. But the reader who is seriously intending to build in brick will find our beautiful little booklet, "Bonds and Mortars in the Wall of Brick"—sent on application with ten cents for postage—highly instructive and helpful. Address Dept. BM.

MEDINAH TEMPLE, Mystic Shrine, Chicago, Ill. Huehl, Schmid & Holmes, Architects. Hy-tex Golden-Rod Matt, laid in special Quadruple Flemish Bond with combination invisible and deep-raked 1-inch buff mortar-joints.

BEAUTY, INDIVIDUALITY, PERMANENCE

But beauty and individuality alone will not satisfy you in the material for the walls of your home. You demand permanence. In every other form of construction but stone, deterioration sets in the day it has been completed. Father Time ruthlessly tries all things, and he has not found brick as a building-material wanting. Brick is almost his twin brother; perhaps that is why he has dealt so generously with it. But whatever the reason, certain it is that brick has withstood the ravages of time for thousands of years.

Think of it! Brick walls built by the Babylonians 3000 years B. C. are still standing and in good condition; even buildings of stone, erected a thousand years later, have crumbled to dust. Every Age and every Civilization has had its brick, from the sun-dried clay of the early Babylonians down through the developments of brickcraft in America—and such the permanency that we have examples of all of them today.

If brick could speak—and all other records were lost—the history of civilization could still be written, without the loss of a single epoch, more clearly and more completely than we now know it.

If the amount of real satisfaction procured is the measure of genuine economy, without regard for the marked financial saving in other respects, then these four factors—Safety, Permanence, Individuality, Beauty—alone make Hy-tex the most economical building-material for your home.

RESIDENCE OF JOHN PITCAIRN, BETHAYRES, PENN. Carrere & Hastings, Architects. Hy-tex Winslow Ironspot. The effective use of Hy-tex with stone trimmings is particularly to be noticed.

WHY HY-TEX?

You want Hy-tex Brick for the walls of your home. You want Hy-tex not because we are the largest manufacturers of face brick in the world—for that might mean mere volume. You want Hy-tex not because we were the pioneers in the industry—for that might mean that we were not today the most progressive. But you want Hy-tex because in all the essentials of a good face brick—Variety, Uniformity, Thorough Construction and Prompt Delivery—Hy-tex can serve you best. These are the four main factors necessary for your satisfaction and safety, and only by insisting on Hy-tex Brick can you be sure of the utmost in all of them.

Variety you must find, or you will realize all too late that some other effect of color or texture was what you really desired. In the purchase of a dress or a suit of clothes this would not be so serious an error; it is the permanency in the purchase of building-materials that makes it only a matter of your protection to select from nothing less than Hy-tex variety. Our twenty-two manufacturing plants cover the best clay and shale regions in the United States. They give us the widest possible range of raw material. As opposed to this no other manufacturer has more than one or two clay-fields on which to draw. Consequently, in no other brick is the purchaser offered any considerable latitude in colors or textures. One manufacturer may offer a rough, or "matt," texture only and in no other colors but reds and grays. Another may have but one texture and one general color-tone running through many variations because of "kiln-smoking" in the burning. Still another may have only a smooth, hard brick of a peculiar light gray color. Many perhaps have nothing to offer but our old friends, plain red bricks, and no matter how good their quality your assurance against regrets demands a wider choice.

As opposed to this condition consider the literal fact that somewhere in the Hy-tex line there is just the brick you want. To catalogue our

RESIDENCE EDMUND PENNINGTON, Minneapolis, Minn. W. S. Kenyon, Architect. Hy-tex No. 100, laid with ¾-inch joint, raked ½-inch.

numbers, or even the list of our shades, would be indefensibly tedious. Just a suggestion, however. There is no more famous smooth red brick anywhere than Hy-tex Blackstone, and those who remember the Blackstone Hotel, in Chicago, will understand the reason. Hy-tex Bokhara is a rough texture brick which would also be classed as a red. Yet in Hy-tex Bokhara there are distinct ranges of blues, greens and purples. The admitted architectural superiority of the city of Washington is the highest possible compliment to Hy-tex Washington Gray. Yet Hy-tex Ivory Matt, Hy-tex Gray Matt, and Hy-tex Golden Mottled Matt represent, in a different texture, the highest development of what are generally termed by manufacturers the gray bricks.

In addition to these classifications, which are offered as almost inclusive by manufacturers with no variety, Hy-tex Brick run through the long list

of Iron-Spots; Manganese Spots; Buffs; Yellows; Yellows and Blues, such as Hy-tex Golden Rod Matt; Colonials; Harvards; Sand Faced; and Pavers.

Back of the wealth of raw material which has made such variety possible stands the widest experience in brick-making in America. Where no other manufacturer has more than one or two experts we have the combined counsel of the experts in twenty-two plants each of whom separately and distinctly ranks among the country's foremost. No other brick-making organization has at its disposal the services of such an efficient corps of specialists in claycraft.

Let us repeat once more the axiom of Architecture that color is more important than line, for this in itself shows you the necessity of demanding variety. The reproductions in this booklet give you only the faintest suggestion of the beauty of the more than three hundred different kinds of Hy-tex Brick. No reproduction can do more than suggest the beauty

RESIDENCE EX-GOV. JOHN LIND, MINNEAPOLIS, MINN. Wm. Channing Whitney, Architect. Hy-tex No. 16.

RESIDENCE ST. LOUIS, MO. William A. Lucas, Architect. Hy-tex No. 110.

of a well-made brick, because that beauty is based, as is the coloring of Nature, on an aggregate of many but related color-tones. In all of our branch offices we maintain extensive exhibit-rooms, the walls of which are lined with panels showing Hy-tex Brick just as they will look in the walls of your home. A visit to the exhibit-room situated nearest to you will be the most valuable and profitable step which you can take in connection with your building plans.

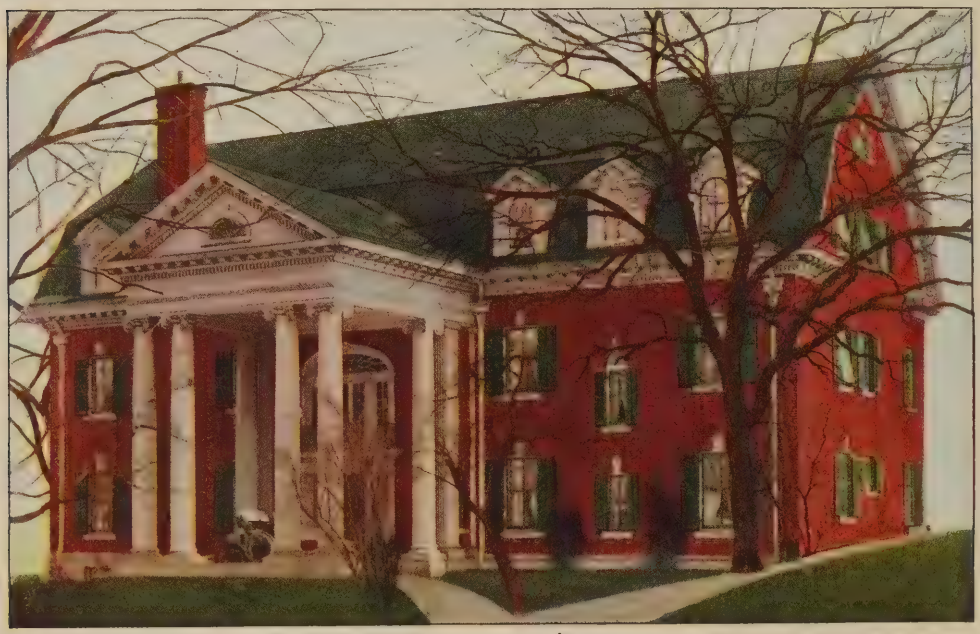
Not only do we offer you the greatest variety of brick, but also the greatest uniformity. When your architect orders certain particular colors or a range of colors in Hy-tex, you know that's what will be delivered. All the resources at our command guarantee this. The Hy-tex in your walls will always be the same as the sample by which you order. This uniformity demands rigid and expensive inspection. With only such facilities as we have can you be certain of Hy-tex uniformity and quality.

The best evidence of Hy-tex uniformity and quality is found in the buildings which have for over forty years tested the honesty of our claims. It must surely mean something to you that ninety per cent of the face-brick in Washington, admittedly the first city in artistic building in America, are Hy-tex; that more than 25,000 buildings in Greater New York have been built of Hy-tex in the last twenty years; that in every city of any size in the United States there are buildings of Hy-tex which citizens take pride in pointing out to strangers. Where competition is keenest and where owners are most exacting, leading architects have staked their professional reputations on Hy-tex. And each hour these buildings attest the wisdom of their selection. This same material is at your disposal for the walls of your home.

Bent as you justly are on making the interior of your dwelling comfortable, attractive, and home-like, you may not be fully aware of the

pleasurable pride you really take, perhaps half unconsciously, in its appearance before the world. As a matter of fact, all that gives to your home, within, its air of well-being and refinement may be expressed in its outward form and color to the passerby—hospitable welcome, sincerity, character, charm, and refined taste. So that while your home confers a favor upon your friends who are fortunate enough to be invited within, it also confers a favor upon the entire community without, which is thus benefited and enriched by the beauty you have added to the common good.

Another compelling reason for selecting Hy-tex for your home is that in Hy-tex you are able to get the same brick year after year. Some time in the future you may want to build an addition to your home; if that time comes you'll want exactly the same brick you have in your walls. Your best assurance of being able to get the brick to match *then* is to build of Hy-tex *now*.



RESIDENCE LOUIS W. HILL, St. Paul, Minn. Clarence H. Johnston, Architect. Hy-tex Colonial, Garden-Wall Bond. Can such residences as these leave any doubt as to the superiority of Hy-tex for Colonial architecture?

RESIDENCE N. W. NELSON. MINNEAPOLIS, MINN. Hy-tex Red Veneer, Flemish Bond. This residence was built complete for less than $7,000.

There remains the consideration of Adequate Service, in Capacity and Prompt Delivery. With a tremendous annual output of hundreds of millions of brick from our twenty-two plants scattered through the States of Virginia, New Jersey, Pennsylvania, Ohio, Indiana, Illinois, Wisconsin, Minnesota, Missouri, and Nebraska, we are able not only to deliver all the Hy-tex you need, but to deliver it in the shortest possible time and at the minimum of freight charges.

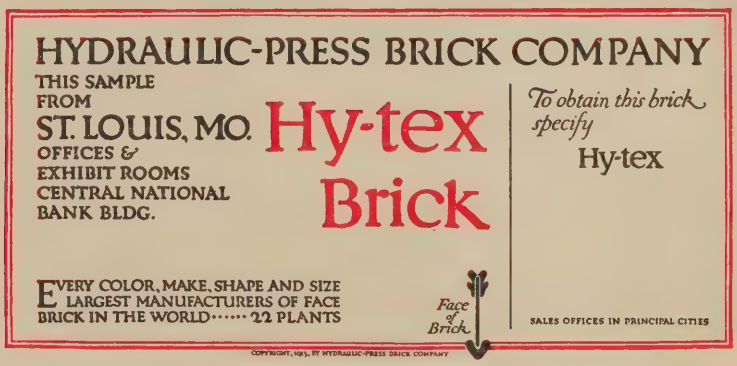
What we can do along that line may be judged by our service to the Equitable Life Assurance Company Office Building, New York City. The brick required by the architect and owners was not to be found on the market. Consequently, our experts specially produced the brick to meet the requirements of the color scheme, and our Philadelphia Branch, at its Winslow Plant, turned them out faster than they could be used.

EQUITABLE BUILDING, NEW YORK CITY.
E. R. Graham, Architect. Thompson-Starrett Co., Builders. Hy-tex Porcelain No. 120.

By permission of the Equitable Office Building Corporation

You will be interested in knowing that this splendid structure—the product of American business and architectural genius—which occupies the entire block from Broadway to Nassau St., between Pine and Cedar Sts., is the largest office building in the world. It extends three stories below the pavement and towers thirty-eight above, contains some forty-five acres of floor space, and can house 15,000 souls. There were 2,600,000 Hy-tex Porcelain Grays, No. 120—the largest order of face-brick ever placed at one time—used in the facing of this building from the sixth to the thirty-second stories, and they were ready for delivery a month before required by the builders. Whether the order is large or small, Hy-tex service stands for the highest efficiency.

For your own sake, in planning to build, apply the test of these four essentials—Variety, Uniformity, Thorough Construction and Prompt Delivery. Demand Variety because you want your home to be beautiful; demand Uniformity because you want your home to come into being just as you had planned it; demand Thorough Construction because you want your home to be durable and increasingly valuable; demand Prompt Delivery because without it your plans may all go wrong. Only by insisting on Hy-tex, the Standard of Quality in Brick, can you have the guarantee of the utmost to be obtained in the wall of brick.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This is the Label, with varying Office address, which is your assurance of the utmost in building satisfaction.

Main Hallway and Piers in the Exhibit Rooms of our Home Office at Saint Louis. The great variety of rich, soft color-tones here displayed in buffs, grays and reds finished in rough and smooth texture and enamel, make adequate color reproduction unsatisfactory.

HY-TEX EXHIBIT ROOMS

Let us again remind you that in connection with all of our offices we maintain Hy-tex exhibits. A visit to some one of these is really indispensable to prospective home-builders. No engraver's skill or printer's art can do more than suggest the beauty, color, and texture of Hy-tex Brick. The illustrations throughout this booklet, however skilfully done, are merely aids to actual visualization.

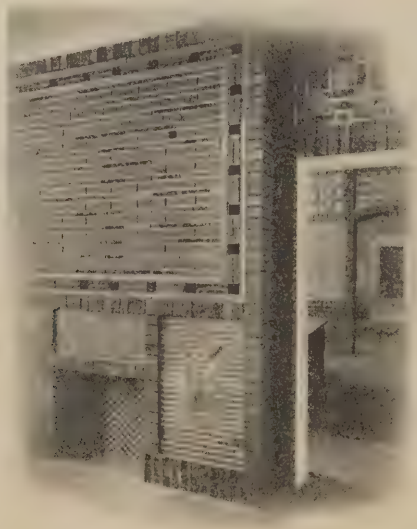
In fact, the accompanying views of our exhibit rooms in St. Louis are not presented in color, as any attempt of the kind would fail to give you a correct impression of either detail or ensemble. They will, however, suggest to you the desirability of visiting any of our exhibit rooms, where you will have an opportunity of seeing in the panels, which line the walls, the total effects of various arrangements in different brick designs.

These panels show Hy-tex just as it will appear in the walls of your home. They put before your very eyes the varying effects gained from the same brick by different bonds and mortars. By the aid of the diminishing-glass you can see the Hy-tex combination which pleases you most just as it will appear in the walls of your future home. In short, our exhibit rooms give you not only the most effective but the *only* means of visualizing the effect you desire—of checking up on aspiration by realization.

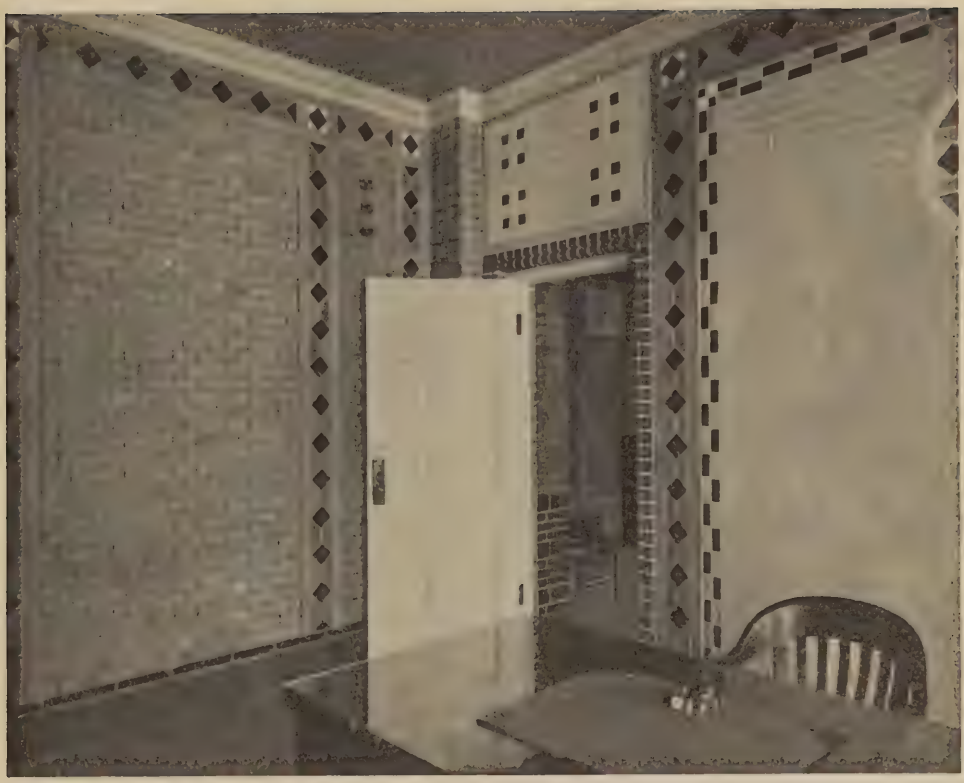
Moreover, you will find in our offices brick specialists of the widest experience, and they are there to be at your service; use them as your disinterested advisors.

All in all, a visit to our nearest exhibit room is the most profitable single step which you can take in connection with your building plans. It is your soundest assurance against lasting regret.

Reception Room
and Corridor



Dutch
Fireplace



Gray Room

Glimpse of
Corridor

RESIDENCE A. H. McADAMS, OVERBROOK, PENN. Chas. Barton Keen, Architect. Hy-tex Winslow Ironspot.

HYDRAULIC-PRESS BRICK COMPANY

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